



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,238	07/17/2006	Fred A. Koch	U008 0687/GNM	8232

720 7590 02/09/2009  
OYEN, WIGGS, GREEN & MUTALA LLP  
480 - THE STATION  
601 WEST CORDOVA STREET  
VANCOUVER, BC V6B 1G1  
CANADA

EXAMINER
----------

HRUSKOCI, PETER A

ART UNIT	PAPER NUMBER
----------	--------------

1797

MAIL DATE	DELIVERY MODE
-----------	---------------

02/09/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/597,238	<b>Applicant(s)</b> KOCH ET AL.	
	<b>Examiner</b> /Peter A. Hruskoci/	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on the papers filed 1/8/09.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) 1-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 1797

Claims 33-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 33 “supersaturation ratio” is vague and indefinite because it is unclear how this term further limits the claim. Claims 34-59 depend from claim 33.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 60-63 are rejected under 35 U.S.C. 102(e) as being anticipated by Bowers et al. 6,994,782. It is submitted that Bowers et al. disclose (see col. 12 line 1 through col. 15 line 18, col. 26 line 46 through col. 27 line 45, col. 41 lines 14-54, and col. 65 lines 16-60) a method of extracting phosphorus from wastewater as recited in the instant claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 64-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowers et al. 6,994,782 as above. The claims differ from Bowers et al. as applied above by reciting the use of specific average upward flow velocities and ratios in the sequential zones. It is submitted that the specific velocities and ratios utilized in Bowers et al. are considered patentably

Art Unit: 1797

indistinguishable from the velocities and ratios recited in the instant claims. It would have been obvious to one skilled in the art to modify the method of Bowers et al. by utilizing the recited velocities and ratios, to aid in extracting phosphorous from the wastewater. The specific velocities and ratios utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific wastewater treated and results desired, absent a sufficient showing of unexpected results.

Claims 33-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowers et al. 6,994,782 as above, and further in view of the LAGEP publication dated 6/22/02. The claims differ from Bowers et al. as applied above by reciting a specific step from recycling wastewater that has passed through the column. The LAGEP publication (see pages 16, 17, and 23-25) disclose that it is known in the art to recycle wastewater that has passed through a fluidized bed reactor, to aid in precipitating struvite, and removing phosphorus from the wastewater. It would have been obvious to one skilled in the art to modify the method of Bowers et al. by utilizing the recited recycling step in view of the teachings of the LAGEP publication, to aid in extracting phosphorous from the wastewater. The specific cross sectional areas, ratios, pH, velocities, and retention times utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific wastewater treated and results desired, absent a sufficient showing of unexpected results. With regard to claims 55 and 56, it is submitted that the teachings of the LAGEP publication as applied above, appear to teach passing the wastewater through a clarifier and air stripper before reintroducing the wastewater into the column, respectively.

Art Unit: 1797

It is requested that applicants cite the above LAGEP publication on a PTO-1449 to complete the record. It is noted that a copy of this publication was provided with the IDS dated 2/6/07, but this publication does not appear to be cited in the Non-Patent Literature Documents.

Applicant's election of Group II, claims 33-67, without traverse in the reply filed on 1/8/09 is acknowledged. The restriction requirement is made final.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Peter A. Hruskoci/ whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 1797

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter A. Hruskoci/  
Primary Examiner  
Art Unit 1797

2/5/09